HAS GOLD APPRECIATED?

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PREFACE.

According to scientific use the "value" of a thing means "the command which its possession gives over purchasable commodities in general" (see Mill, Vol. I., p. 522), and labor is one of these commodities (see Mill, Vol. I., p. 538, and Vol. II., p. 26).

Doubtless, in the long run, wages (that is, the price of labor), measured in gold, fall as the difficulty of acquiring—the effort needed to acquire—a stated amount of gold increases; and wages rise as this difficulty or effort decreases. And so the increase and decrease in this difficulty or effort tends to respectively increase and decrease the purchasing power (that is, in scientific language, the "value") of gold, because labor is one of the commodities to be purchased.

But in scientific language an increase in the "value" of gold does not necessarily have as part of its meaning an increase in the *difficulty* of *obtaining* gold. For instance, between 1873 and 1891 the tables in the Senate Report show that in the United States the price of merchandise fell on the average 18 per cent., while wages rose in the same time 14 per cent. The fall in merchandise was so much greater than the rise in wages, that perhaps it may fairly be said that the purchasing power—that is, the "value," in its scientific sense—of gold increased in that period, although the effort needed to get a given amount of gold evidently decreased.

And a decrease in the "value"—in its scientific sense—of gold does not necessarily have as part of its meaning a rise in the prices of merchandise. Between 1840 and 1891, prices of merchandise, by the Senate table, fell about 3 per cent., while wages rose 104 per cent. Undoubtedly in this period the "value" of gold—according to scientific use—fell, since the rise in wages was very far greater than the fall in prices of merchandise was.

Whatever we may say as to the change in "value" in its *scientific* sense, however, it certainly seems absurd to the average business man to say that the "value" of gold has risen at the same time that the price of labor has risen, and notwithstanding that the difficulty of acquiring a stated amount of gold has decreased. In the *popular* sense a rise in the value of gold—or an ap-

preciation of gold—undoubtedly means an increase in the effort needed by the mass of mankind to get a stated amount of gold, besides meaning an increase in its purchasing power.

In regard to this question the leaders of our bimetallists are confused by words. They assert that a rise in the value of gold is proved by, and indeed is equivalent to, a fall in prices of merchandise *alone*, and having, by the fall in the prices of merchandise, established their premise that a rise in the value of gold has taken place, they *use* this expression—" rise in the value of gold "—in the sense in which it is used by the public, as if it involved the meaning that an increase has occurred in the effort needed to acquire a given amount of gold. They do this although they have stated in their definition that it does not involve this meaning, and although the Senate Report, so widely published, proves that not an increase, but a decrease, in the effort needed has occurred.

In this pamphlet I have *not* used the expressions " value " and " appreciation " in their *scientific* senses. I have tried to merely define the *popular* meanings of these expressions, and to show that in the popular sense of the term no appreciation of gold has taken place.

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Boston bimetallists have lately announced that the fall in prices since 1873 has been a calamity, and has been caused by a scarcity of metal money; that this scarcity of metal money can be cured by legislation; and that, if it is not cured, further bad results will follow. Now these propositions open the door wide for all sorts of inflation. The chief reliance of sound money men has been the belief that there is plenty of legal tender metal and paper in this country, and that it is dangerous to add to it by legislation, because the value of standard money might thereby be reduced. This bimetallists' announcement is just what the inflationist leaders of the West and South have always said, and it strengthens their hands enormously to have educated Northern business men agree with them. Moreover, this announcement is especially harmful at this moment, because many people have been so depressed and shaken by the panic as to be ready to thoughtlessly favor measures for relief which they ordinarily would not listen to.

Without considering the feasibility of the remedy proposed, let us look at the bimetallists' three principal assertions as to the trouble that needs remedy.

These assertions are:

1. That gold has appreciated since 1873.

2. That there has been an increasing scarcity of metal money since 1873.

3. That since 1873 there has not been as much prosperity as there ought to have been.

Now investigation shows:

1. That rightly measured—that is, measured by the effort needed to acquire a given amount of it—gold has not appreciated, but has *depreciated* since 1873, in the United States at any rate, and presumably in

Europe. That measured by the prices of merchandise gold has appreciated considerably since 1873; but that this appreciation only carried its market value back to a little above what it had been in the average of the years between 1840 and 1850, and that this appreciation *ceased seven years ago.*

2. That judging by the only safe indications we have—namely, the changes in the amount of metal money lying idle in the four great banks of Europe at periods of especially low rates of interest and low prices of merchandise—money has become more and more plenty as time has gone on.

3. That it is proved by trustworthy statistics that in this country prosperity has been increasing very greatly since 1873. Presumably this has been the case in Europe. At any rate, whatever lack of prosperity there has been in Europe in the *last seven years* cannot be due to increasing scarcity of gold or to falling prices, since there has been during that period neither of these.

First, as to the appreciation of gold.

There was a very rapid increase in the annual product of gold after 1850, and a very rapid rise in prices. (See Appendix A.) After the annual product of gold had decreased from its highest point, the high level of prices was pretty steadily maintained for several years (we must disregard the abnormal spurt in prices caused by our Civil War), and in 1873 a still higher level was reached. Then came a great decline in prices, very rapid up to 1879, and then, after a small rise, another decline to a still lower point in 1886 and 1887. (Appendix B.) After 1887 there was another small rise, and then another decline; and prices, according to the "London Economist," were on April 1, 1894, just where they were in January and July, 1886. (Appendices B and C.)

It is now over three years since the Baring panic, and ten months since our own great panic, so that we may hope that we have felt most of the depressing effects of those events. The price of silver seems to have reached bottom. The amount of metal money in the four great banks of Europe on January 1, 1894, had increased 23 per cent., and the amount of gold 30 per cent. since 1887. The annual product of gold has increased nearly 50 per cent. since that year. Consumption of merchandise is still at a very low ebb; but business has begun to improve in

England, and in a short time the improvement must spread to this country. It is reasonable therefore to suppose that there will soon be a rise in prices.

But while these are the changes that have taken place in the prices of commodities, the Senate table shows that the changes in wages in the United States have been very different. Up to 1891, the last year recorded in the table, wages, measured in gold, had nearly doubled since 1850, had more than doubled since 1840, and had increased 14 per cent. since 1873. (Appendix D.) Everybody will agree that somewhat similar changes had taken place in the salaries of officers of corporations, and in the earnings of professional men. What does this indicate? Why, that, so far as the most careful investigation shows, gold money is acquired by educated and uneducated men alike with far less exertion than formerly.

What is of chief importance to us all in regard to gold is of course the degree of effort needed to obtain a given amount of it. This is really what is in everybody's mind when speaking of the appreciation of gold; and the great reason why a fall in prices is deplored is because it seems to indicate that more effort is needed. (See General Walker's reasoning, Appendix E). But obviously these two things—a fall in prices and an increase in the effort needed to acquire a given amount of gold—do not go together. Since 1840 prices have fallen a little, while wages have more than doubled. Since 1873 prices, measured in gold, have fallen 10 per cent., while wages have risen 14 per cent. Is it proper, then, to say that the value of gold has risen, that gold has appreciated, when it can be got with less exertion than formerly? It is not worth while to dispute about words; but it is very important to remember that, as compared with the *value of a day's work*, gold has not appreciated, but greatly depreciated,—12 per cent. since 1873, 46 per cent. since 1850, and 51 per cent. since 1840. We have all been wearied and disheartened by the panic and dulness of the past year, and are only too ready to believe that the acquiring of money has become permanently harder than formerly; and it is just for the purpose of correcting such hasty opinions that records of wages, prices, etc., are most valuable.

Compared with 1873, wages in the United States, measured in gold, had in 1891 risen 14 per cent., while the cost of the things an average citizen has to buy—food, fuel, shelter and clothing—had fallen 10 per

cent. Now, take the case of a man who in 1873 got in greenbacks the equivalent of $2 a day in gold, and suppose that his daily expense for food, etc., was then just this $2 in gold. In 1891 he would have got $2.28 a day, and his outgo for these necessaries would have been only $1.80, leaving him a surplus of 48 cents a day to go against any debt he owed or for luxuries. Evidently the fall in prices had created a lessening of his burden, not an increase of it. Why should the fall in prices be thought a calamity?

The assertion that merchants and manufacturers must have been having a very bad time since 1873, owing to the decline in prices of goods on hand, is sufficiently answered by the growth in commerce and manufacturing, and by the increase in wages and general prosperity. (Appendix F.) The ordinary temporary fluctuations in prices are so great compared with this decline since 1873, which averaged say 1½ per cent. a year, that it would be hard to trace any effect from the decline. But whether or not it ever did harm, its harm certainly ceased seven years ago, because there has been no decline from the prices of that date.

The absurdity of estimating the appreciation of gold by prices merely is shown more clearly by carrying back the comparison to 1840. Between 1840 and 1891 prices of merchandise, by the Senate table, fell about 3 per cent., while wages rose 104 per cent. Is it fair to say that gold appreciated in this interval?

Again, the annual product of gold alone since 1840 has been over eight times what it was annually in the previous eighty years, and 2⅓ times what the product of silver and gold together was annually in the previous eighty years (before 1840). Does not the increase of 104 per cent. in wages correspond better with this apparent plentifulness of gold than the fall of 3 per cent. in prices does? This fall in prices has been caused by a decrease in the real cost of production, that is, a decrease in the effort needed to produce merchandise. And the great rise in gold wages has come because there has been in the past fifty years such a great production of gold at low cost.

Second, as to the alleged growing scarcity of metal money since 1873. How do they support this assertion? It will not do to say that it is proved simply by the fall in prices of merchandise.

In the first place, look at the amounts of gold and silver produced. (Appendix A.) The world got on somehow with an average yearly product of $12,000,000 of gold and $31,000,000 of silver from 1760 to 1840. Certainly $100,000,000 of gold, and as much more of silver, a year, would seem to be enough to provide for all wants. It may be said that since 1873 the silver has been of no use; but that is not true. Even now, when nearly all the mints of Europe are closed to it, of course its cheapness and plenty cause it to be exported more freely to India and the far East, and to prevent to some extent the export of gold to those countries, and so the more gold is left for Europe.

The bimetallists say that the new product of gold is used in the arts to a greater extent than ever before. Is this because gold is scarce, or because it is plenty? General Walker considers that the proportion of gold which shall be consumed in the arts is "primarily" determined by the purchasing power of gold as money. He says ("Money, Trade and Industry," p. 55): "The use of gold in the arts, decorative and industrial, has nothing to do with the purchase power of gold used as money. On the contrary, it is the purchase power of gold used as money which primarily determines how much gold shall be consumed in the arts." Doubtless the increase in luxury is mainly responsible for the immense present consumption of gold in the arts; but if gold were not plenty, so much of it could not be spared from the coinage. (Appendix G.)

We have, then, since 1850, a great increase in the annual product of gold, a much lower cost of gold measured by the effort needed to acquire a given amount of it, a much smaller part of the annual product of gold put into the coinage, and a very much larger amount of gold used in the arts. Does this look as if there were increasing scarcity of gold? (Appendix H.)

Have we any further indications of the plenty of gold? We cannot get trustworthy figures either of the amount of metal currency in use at different periods, or of the number of commodities to be exchanged; and if we could get all these figures, we should hardly be any nearer a conclusion as to whether money had, or had not, become more scarce. The adoption of various devices for economizing the use of money—banking, bills of exchange, clearing-houses, telegraphic transfers, etc., and changes in the habits of the public as to carrying cash in their pockets, and as to paying small bills with checks—have changed the

requirements greatly. To observe how much of the metal money in circulation was left over idle and unused at the different periods at which the conditions as to prices of merchandise and business activity were similar, seems the best means for forming a judgment as to the relative scarcity of metal money. It is not important to know whether the reason for this money being idle was because the amount in existence had increased, or because the demand for its use had decreased.

In the government banks of England, France, and Germany, were :

	Gold Held Distinct.	Silver Held Distinct.	Gold and Silver Held Together.	Total.
Jan. 1852.....	$101,000,000	$93,000,000	$15,000,000	$209,000,000
Jan. 1862.....	122,000,000	18,000,000	63,000,000	203,000,000
Jan. 1872.....	228,000,000	16,000 000	137,000,000	381,000,000
Jan. 1880.....	277,000,000	236,000,000	128,000,000	641,000,000
Jan. 1887.....	333,000,000	223,000,000	165,000,000	721,000,000
Jan. 1894	452,000,000	245,000,000	194,000,000	891,000,000

and the Bank of Russia increased its holding of gold and silver from $119,000,000 in 1872 to $175,000,000 in 1887, and to $301,000,000 in 1894. The great increase in these figures since 1887, *while prices have remained substantially steady*, is the most important fact. How could such an increase in the amount of *idle* money occur if there were an increasing scarcity of money in Europe ?

Third, as to the changes in the degree of prosperity.

What constitutes an *increase* in prosperity ? Everybody will agree that the most important element is the opportunity to get the material things one wants ; namely, food, fuel, shelter, and clothing *by means of less effort*. If the money earned by a day's work will buy more of these desirable things, prosperity has increased—we are in easier circumstances—whether this improvement has come from an increase in wages and salaries and professional fees, or from a decline in the prices of merchandise and in rents. The Senate tables, showing changes in the wages of an average workingman, and in the cost of food, fuel, shelter, and clothing which an average citizen of the United States buys, enable us to judge how much prosperity has increased here since 1840. Changes in the ratio that wages bear to the cost of these articles indicate the changes

in prosperity better than any statistics that *were ever collected before in the world.* Now the changes have been such that, if the ratio of wages to costs in 1840 is called 100 to 100, it was in 1850, wages 117 to costs 100 ; in 1873, wages 165 to costs 100 ; in 1886, wages 194 to costs 100 ; and in 1891, wages 208 to costs 100. What the ratio is to-day it is hard to say accurately, but probably not far different from what it was in 1891. At an exceptional time like the present, statistics of this kind are not so good indications of the degree of prosperity as usual, because, although wages have not dropped perhaps even so much as costs have, there is a great deal of enforced idleness. We know, however, that ordinarily the enforced idleness in this country is almost nothing ; and as probably there has not been of late years any more of it than in former years, if there has been as much, it furnishes no reason for doubting the conclusion to be drawn from the Senate table. From this point of view, it seems fair to say that in 1891 there was more than twice as much prosperity in this country as in 1840, and that there was 25 per cent. more than in 1873.

In estimating the degree of prosperity, there is, beside the question of effort needed to procure the material things one wants, the question of the rate of accumulation of permanent property. Is the nation, as a whole, adding to its permanent wealth, improving its railroads, bridges, buildings, etc., as fast as formerly ? This is a difficult question to answer accurately. What can we take as an index ? Doubtless the rate of consumption of iron is the best single index. No other one thing is so generally used as is iron in everything that is built. Now the consumption of iron in this country increased from 2,800,000 tons in 1873 to 9,100,000 tons in 1892. The population increased meantime, however, and it is fairer to compare the compensation of iron per head, that is, 148 *pounds per head in* 1873 *with* 314 *pounds per head in* 1892.

We have the opportunity for increased savings shown by the table of ratios of wages to costs, and the proof that these savings have been laid away in a permanent form, shown by the figures of the consumption of iron. Is prosperity lacking ?

There is then within our reach some means of forming an approximate estimate of the changes which the value and plentifulness of gold have undergone, and of the changes in prosperity. I offer these five tables as the most condensed form of our information on these subjects.

	No. 1. Relative costs of gold measured by day's work. Deduced from wages table, Aldrich Report, p. 14.	No. 2. Relative ratios of wages to cost of living. Deduced from wages table (p. 13) and price table (p. 9, Aldrich Report).	No. 3. Soetbeer's table of relative average prices of commodities.	No. 4. Pounds of pig iron consumed per capita in the United States.	No. 5. Holdings of gold and silver by the four great banks of Europe. (Russia estimated in 1852 and 1862.) The figures denote millions of dollars.
1840	1.212	.837			
1841	1.251	.810			
1842	1.189	.902			
1843	1.205	.930			
1844	1.202	.926			
1845	1.166	.930			
1846	1.122	.921			
1847	1.095	.944			
1848	1.091	.995			
1849	1.105	1.020			
1850	1.100	.980			
1851	1.097	.920	100.21		
1852	1.089	.932	101.69		226
1853	1.073	.901	113.69		
1854	1.043	.926	121.25		
1855	1.025	.917	124 23		
1856	1.020	.903	123.27		
1857	1.008	.905	130.11		
1858	1.021	.900	113.52		
1859	1.003	.977	116.34		
1860	1.000	1.000	120.98		
1861	.993	1.050	118.10		
1862	.988	1.009	122.65		260
1863	1.221	.973	125.49		
1864	1.160	.900	129.28		
1865	1.455	.780	122.63		
1866	.900	.971	125.85		
1867	.821	1.129	124.44		
1868	.839	1.094	121.99		
1869	.809	1.232	123.38		
1870	.730	1.281	122.87		
1871	.664	1.333	127.03	106.4	
1872	652	1.367	135.62	153.4	500
1873	.678	1.385	138.28	147.6	
1874	.685	1.348	136.20	129.2	
1875	.712	1.318	129.85	100.8	
1876	.745	1.310	128.33	93.9	
1877	.738	1.314	127.70	103.5	
1878	.719	1.366	120.60	117.6	
1879	.717	1.443	117.10	157.9	
1880	.699	1.383	121.89	178.1	760

	No. 1. Relative costs of gold measured by day's work. Deduced from wages table, Aldrich Report, p. 14.	No. 2. Relative ratios of wages to cost of living. Deduced from wages table (p. 13) and price table (p. 9, Aldrich Report).	No. 3. Soetbeer's table of relative average prices of commodities.	No. 4. Pounds of pig iron consumed per capita in the United States.	No. 5. Holdings of gold and silver by the four great banks of Europe. (Russia estimated in 1852 and 1862.) The figures denote millions of dollars.
1881	.663	1.424	121.07	216.8	
1882	.654	1.438	122.14	210.1	
1883	.628	1.523	122.24	200.0	
1884	.644	1.523	114.25	175.4	
1885	.642	1.634	108.72	172.5	
1886	.642	1.631	103.99	240.8	
1887	.638	1.627	102.02	258.9	897
1888	.633	1.621	102.04	233.9	
1889	.614	1.645	106.13	284.0	
1890	.594	1.757	108.13	320.5	
1891	.593	1.752	109.19	293.9	
1892				313.8	
1893					
1894					1193

(See Appendix J, where four of these tables are illustrated by diagrams and the colored chart for the other table.)

Evidently information of the kind contained in each of these tables must be studied in order to form a fair opinion as to what has caused the fall in prices since 1873, and as to whether this fall has been a calamity. But how do the bimetallists attack these questions? They utterly disregard all information of the kind contained in four of these tables. Even in regard to the information in the other table, that of the prices of merchandise, they have observed only that the figures grow smaller for several years after 1873. They have not thought it worth while to notice that the latest figures were about as large as the figures between 1840 and 1850, and about as large as the figures in 1886. And it is on a theory based on such scanty information as this that they make assertions in direct contravention of all the arguments of sound money men—assertions calculated to strengthen the hands of the inflationists, and to defeat all efforts toward the adoption of good banking laws.

The chief mistake that the bimetallists make is in confusing a fall in the prices of merchandise with an increase of the effort needed to acquire gold. This makes the decrease in the effort needed to produce or acquire a given amount of merchandise, which is the greatest blessing, seem the greatest evil. And their notions about the nature of money lead them to deny that the market value of gold is at all affected by its cost of production, and prevent their seeing anything that can check a decline in the prices of merchandise except possible legislation. It is certainly a curious state of mind for business men, who have studied the subject, to fall into.

What is the effect the bimetallists wish to produce on standard money by the proposed legislation? Since the value of gold, measured by the degree of effort needed to acquire a given amount of it, has had such a fall, legislation is not needed to keep the value of standard money from rising ; nor, since the real value of wages and salaries and the rate of accumulation of capital have greatly increased, is it needed to check a decline in prosperity.

In regard to prices of commodities, then, what are they aiming at ? Prices have been substantially steady since 1886. If steadiness of prices is what they desire, why make any change ? Why interfere with the forces which have prevented a decline for the past seven years ? Do they wish to force a rise in prices by reducing the value of standard money ? (Appendix K.) If so, they should take to heart what the Hon. A. J. Balfour said in his Mansion House speech last August. (Appendix L.)

It is certainly not well to spread the idea that, when we do not like the level of prices, we ought to promote legislation for the purpose of changing the value of standard money. We must look forward to many fights against the inflationists of the South and West. It is of the utmost importance that our business men should stand firmly together in opposition to everything that tends toward affecting the value of standard money.

The greatest danger to our finances consists in the issue of legal tender paper by the Government. The chief argument against this is that it may lead to a reduction in the value of standard money. If our educated men say it is right to reduce the value of standard money, we cannot fight successfully against issues of legal tender government paper.

The greatest improvement to be hoped for in our finances is the retirement of the legal tender paper issued by the Government, and the adoption of laws providing for issues of bank notes on conditions sufficiently stringent, but not demanding so much capital as the present laws do. The foundation of all must be confidence in the stability of the value of standard money, and it is difficult to see how this confidence can be maintained if efforts to change the value of standard money are to be fostered.

APPENDIX A.

	Average prices, taken in gold, and weighted, of commodities in the United States, p. 100, Aldrich Report to U. S. Senate, March, 1893. 1860 equals 100.	London Economist table of average prices, p. 224, Aldrich Report, and brought up to 1894. 1845-50 equals 100.	Soetbeer's table of average prices (London and Hamburg), p. 294, Aldrich Report. 1847-50 equals 100.	The world's annual production of gold in $1,000,000. Report of Director of Mint, 1893.	The world's annual production of silver in $1,000,000. Report of Director of Mint, 1893.
1840	97.7				
1841	98.1				
1842	90.1				
1843	84.3				
1844	85.0			36	32
1845	88.2				
1846	95.2				
1847	95.2	100			
1848	88.3		100.00		
1849	83.5			37	39
1850	89.2			44	39
1851	98.6	104	100.21	68	40
1852	97.9	93	101.69	133	41
1853	105.0	108	113.69	155	41
1854	105.0	122	121.25	127	41
1855	109.2	118	124.23	135	41
1856	112.3	123	123.27	148	41
1857	114.0	132	130.11	133	41
1858	113.2	119	113.52	125	41
1859	102.9	115	116.34	125	41
1860	100.0	121	120.98	119	41
1861	94.1	124	118.10	114	45
1862	101.6	131	122.65	108	45
1863	91.1	159	125.49	107	49
1864	110.7	172	129.28	113	52
1865	107.4	163	122.63	120	52
1866	134.0	162	125.85	121	51
1867	123.2	137	124.44	104	54
1868	125.6	122	121.99	110	50
1869	112.3	121	123.38	106	48
1870	119.0	122	122.87	107	52
1871	122.9	118	127.03	107	61
1872	121.4	129	135.62	100	65
1873	114.5	134	138.28	96	82
1874	116.6	131	136.20	91	72
1875	114.6	126	129.85	98	81
1876	108.7	123	128.33	104	88
1877	107.0	123	127.70	114	81
1878	103.2	115	120.60	119	95
1879	95.0	101	117.10	109	96

	Average prices, taken in gold, and weighted, of commodities in the United States p. 100, Aldrich Report to U. S. Senate, March, 1893. 1860 equals 100.	London Economist table of average prices, p. 224, Aldrich Report, and brought up to 1884. 1845-50 equals 100.	Soetbeer's table of average prices (London and Hamburg), p. 294, Aldrich Report. 1847-50 equals 100.	The world's annual production of gold in $1,000,000. Report of Director of Mint, 1893.	The world's annual production of silver in $1,000,000. Report of Director of Mint, 1893.
1880	104.9	115	121.89	107	97
1881	108.4	108	121.07	103	102
1882	109.1	111	122.14	102	112
1883	106.6	106	122.24	95	115
1884	102.6	101	114.25	102	106
1885	93.3	95	108.72	108	119
1886	93.4	92	103.99	106	121
1887	94.5	94	102.02	106	124
1888	96.2	101	102.04	110	141
1889	98.5	99	106.13	123	162
1890	93.7	102	108.13	119	172
1891	94.4	102	109.19	126	186
1892	92.8	97		139	196
1893	91.7	96			
1894		95			

[These tables are shown on a colored chart, which is for sale by the publishers.]

The United States price table is made from the average prices in the United States of 90 articles for each year between 1840 and 1860, and of 223 articles for each year between 1860 and 1893. In this table, differently from the other two price tables, the price of each article is given as much relative importance in computing the average as that article has in the consumption of the average citizen of the United States.

The "London Economist" table is made from the prices of 22 articles in London. Four of the 22 are products of cotton.

Prof. Adolf Soetbeer's table is made from the prices of 114 articles in London and Hamburg.

Professor Soetbeer gives the gold produced in the world from 1760 to 1840 as $981,000,000, an average per year of $12,270,000; and the silver as $2,499,500,000, an average per year of $31,240,000.

APPENDIX B.

Prof. J. L. Laughlin, writing of the rise to 1873 in the "Quarterly Journal of Economics" of April, 1887, says:

"The series of events which led to the expansion of trade and the collapse in 1873 were unprecedented in their magnitude. The greatest production from the mines which the world has ever seen was pouring gold into the channels of trade. In spite of the expansion of commerce and the absorption of gold by France, the new gold must have affected prices. But this set in motion other forces which had an effect on prices. The gold discoveries themselves created a spirit of adventure and stimulated high hopes of gain in unusual ways. Then, too, a period of rising prices breeds speculation. The figures of home and foreign trade were swelled by the higher range of prices and added to the buoyant feeling under the inspiration of which new enterprises were eagerly entered upon. The Crimean War and the extraordinary rise of agricultural products aided the movement, which received a partial check in the panic of 1857. The war in Italy in 1859 was followed by the Civil War in the United States in 1861. The latter produced a great rise in the prices of cotton, tobacco and breadstuffs in Europe, and the issue of inconvertible paper drove gold out of the country. Then Italy also gave up her specie after 1865. [A writer in the "Edinburgh Review" for July, 1886, page 34, estimates the addition of gold to Europe from the United States and Italy as about $500,000,000.] The war between Prussia and Austria added to the abnormal extension of trade, which in 1866 again received only a partial check. The years from 1867 to 1873 in the United States witnessed an unlimited expansion of extravagance and overtrading, such as has been seldom equaled, accompanied by excessive railway building. Our imports were out of all proportion to our ability to pay for them. In this period also came the Franco-German War of 1870, and the distribution of the indemnity of war by Germany. The extraordinary and exceptional demand for commodities in periods of war, at the very time of the great destruction of wealth, produced an unhealthy state of affairs; but on the outside all seemed fair, and men had begun to believe that prices were fated always to rise. The speculation in metals in 1873 was of an unparalleled kind. Nothing in fact marks this period from 1850 to 1873 (as compared with the period from 1873 to 1886) more distinctly than the extreme variations in the rate of discount at the great banks of Europe. There were all the evidences of an unhealthy and abnormal condition of affairs. But the unchecked demand, when the actual power to buy had been greatly impaired, could not go on forever. When

it was once found that men had been creating liabilities beyond their means to meet them, the end had come. The crisis of 1873 was the painful return to a consciousness of the real situation, after a prolonged fever of speculation for nearly twenty years, which had spread over many countries. The effects were the more serious because the disease had got such great headway."

APPENDIX C.

People often think that the tables given do not show fairly the fluctuations which affect us most; that is, the fluctuations that take place in the articles most important to us. Therefore I give a table of the prices in London in 1845 and subsequently of nine of the most important products of our country which are quoted in London.

Table of prices, weighted in accordance with the money value of the amount of each commodity produced in the United States in 1890.

	1845–1850.	January, 1886.	January, 1891.	January, 1894.
Cotton	502	402	412	332
Wool	85	76	87	80
Meat	671	711	845	959
Pig iron	191	127	166	136
Copper	67	33	44	35
Lead	22	16	17	12
Timber	412	379	437	346
Tobacco	18	39	44	44
Wheat	569	325	347	285
	2537	2108	2399	2229
Or reduced	100	83	95	88

This table is weighted in accordance with the production (the United States Senate price table is weighted in accordance with the consumption); that is, the price of each of these products is given the relative importance that the value of this product bore in 1890 to the aggregate values of all these products. The crop of the last census year (1890) was taken as representative; and to take an example, cotton was given 412 points towards making up the aggregate for January 1, 1891, because the cotton crop of 1890 at the January 1, 1891, price would have

brought $412,000,000. The wool crop would have brought $87,000,000. Therefore wool is given 87 points, and so on for the other articles. Then in January, 1886, cotton is given 402 points, because the price of 1886 was to the price of 1891 as 402 to 412. The figures for the different articles were worked out in the same way for each date. By this manner of building up the table, an average (the figures given at the bottom of the table) is obtained, which is much more representative of the change in prices, as the changes affect our producers, than a table would be which did not take into account the importance of the different articles. Prices were taken as quoted by the London Economist. Of course this table is a rough one, and not to be ranked with the careful tables of the admirable Aldrich Report; nor probably is it of much value as regards comparison with 1845; but it is valuable as showing the changes between 1886 and 1894. It shows clearly that for things of most importance to our producers London prices were higher on April 1, 1894, than on January 1, 1886; and it is to be remembered that the 12 per cent. decline in prices since 1845–50 does not indicate that the producer gets to-day less return than then, for the reason that the lessened cost of transporation from the producer to London has probably been more than the 12 per cent. decrease in the price. The figures in the 1894 column are somewhere near the number of millions of dollars that our product of each of those articles for the year 1893 was worth. Meat is as important as cotton, timber, and wheat together. Wheat does not form so large a proportion of our products as the bimetallist seem to believe. Its value is less than 14 per cent. even of the total of these nine products; and this list does not include Indian corn, hay or many other commodities, of which we produce a great deal.

APPENDIX D.

Relative wages in the United States averaged according to importance, given in currency (Aldrich Report, p. 13) and in gold (Aldrich Report, p. 14).

	Currency.	Gold.		Currency.	Gold.
1840	82.5	82.5	1866	155.6	111.1
1841	79.9	79.9	1867	164.0	121.8
1842	84.1	84.1	1868	164.9	119.1
1843	83.0	83.0	1869	167.4	123.5
1844	83.2	83.2	1870	167.1	136.9
1845	85.7	85.7	1871	166.4	150.3
1846	89.1	89.1	1872	167.1	153.2
1847	91.3	91.3	1873	166.1	147.4
1848	91.6	91.6	1874	162 5	145.9
1849	90.5	90.5	1875	158.0	140.4
1850	90.9	90.9	1876	151.4	134.2
1851	91.1	91.1	1877	143.8	135.4
1852	91.8	91.8	1878	140.9	139.0
1853	93.2	93.2	1879	139.4	139.4
1854	95.8	95.8	1880	143.0	143.0
1855	97.5	97.5	1881	150.7	150.7
1856	98.0	98.0	1882	152.9	152.9
1857	99 2	99.2	1883	159.2	159.2
1858	97.9	97.9	1884	155.1	155.1
1859	99.7	99.7	1885	155.9	155.9
1860	100.0	100.0	1886	155.8	155.8
1861	100.7	100.7	1887	156.6	156.6
1862	103.7	101.2	1888	157.9	157.9
1863	118.8	81.9	1889	162.9	162.9
1864	134.0	86.2	1890	168.2	168 2
1865	148.6	68.7	1891	168.6	168.6

APPENDIX E.

General Walker, on page 193 of his book, "Money, Trade and Industry," quotes from an article in the London Economist of December 28, 1878, and says:

"The Economist concludes that there has been a real fall in prices to the extent of 16 per cent. since 1869: 'This is an undoubted appreciation of gold, because it represents a real increase in the purchasing power of gold.' What does an increase in the purchasing power of gold practically mean? It means an addition of one-sixth to the burden of

every existing debt, national, corporate and private, payable, as are nearly all the public, and by far the greater part of the private debts of the world, in gold. It means that on every day which the laboring man gives to work, to pay his share of the interest and principal of such public debts, or to meet the interest or principal of the mortgage on his cottage or his farm, his hours of labor shall be, not twelve, but fourteen. If those last two hours drag, if brain and hand grow weary with the strain and the toil, he should know whom to thank—the financiers and political economists, who, at a time when the production of the two historical money metals, jointly, was at a standstill, or even diminishing, accomplished the great monetary reform of throwing the stock of one of them, accumulated through thousands of years, out of its use as money of full power in Europe, remitting it to the office of small change, and sending the remainder to swell the treasures of the Orient—all for the sake of a mathematical and metrical unity of coinage and exchange."

General Walker here assumes that because prices had fallen 16 per cent., therefore all public and private debts constituted a 16 per cent. heavier burden on every laboring man. We cannot get statistics of the changes in wages in England during this interval, but the Senate table gives them fully for the United States. Measured in legal-tender money, the decline in wages here was about 16 per cent., and the decline in cost of food, fuel, shelter and clothing was 29 per cent. Take the case of a workingman, who got $2.00 a day in greenbacks in 1869, and spent just that $2.00 for his food, fuel, shelter and clothing; he would have got $1.68 per day in 1879, but his cost for food, fuel, shelter and clothing would have been only $1.42. Consequently, instead of being harmed by what is called the appreciation of gold, he would in 1879 have been saving 26 cents a day to go against any debt that he owed, or to go for luxuries, while he had nothing left over beyond the cost of necessaries in 1869. Of course, this result depends on the fact that prices of commodities fell more than wages did. Probably this was the case in England also during that interval, although we have no means of ascertaining this. But the point I wish to make clear is, that General Walker evidently did not look into this question at all. He assumes that a fall of 16 per cent. in prices means necessarily more exertion for the laboring man. This would be true only if workingmen's wages fell as prices of commodities fell, and if at the same time workingmen derived no saving in their expenses from the fall in prices. As to the effect of a fall in prices even on farmers, who sell only their produce and not their labor, General Walker's theory presupposes that it costs a farmer the equiva

lent of as many days' labor to raise a bushel of wheat and deliver it in Chicago or London as it did twenty years ago. Of course, it does not.

If we make this same calculation of the conditions of the laboring man in 1840 and in 1891, during which time prices fell about 3 per cent., we shall find that a man who was getting $1.00 a day in 1840 would be getting $2.04 a day in 1891; and if his outgo in 1840 for food, fuel, shelter and clothing was just equal to his wages in 1840, he would have left over out of his wages $1.07 in 1891 to be expended in luxuries, or to go toward paying his debts. What, then, becomes of the idea that a fall of 3 per cent. in prices of merchandise has increased the burden of all debts by 3 per cent.?

APPENDIX F.

Manufacturers of the United States as given by the Census (three ciphers omitted.)

	1850.	1860.	1870.	1880.	1890.
Establishments.	123,	140,	252,	254,	355,
Capital.....	$533,000,	$2,010,000,	$2,118,000,	$2,790,000,	$6,525,000,
Employees.....	957,	1,311,	2,054,	2,738,	4,712,
Wages.....	$237,000,	$379,000,	$776,000,	$948,000,	$2,283,000,
Value materials.	555,000,	1,032,000,	2,488,000,	3,397,000,	5,159,000,
Value products.	1,019,000,	1,886,000,	4,232,000,	5,370,000,	9 370,000,

The wealth of the United States—that is, the real and personal property in the country—is given by the census as *per capita:*

1850.	1860.	1870.	1880.	1890.
$308	$514	$780	$870	$1,039

Between 1880 and 1890 our railroad mileage increased from 93,000 to 167,000 miles; the resources of our savings banks increased from $967,000,000 to $1,636,000,000; the yields of metals and minerals increased from $386,000,000 to $600,000,000; and we know these increases have continued since then.

The production of iron in the world since 1865 has been as follows (W. B. Phillips, in "The Mineral Industry, 1892") in metric tons:

	Great Britain.	United States.	Germany.	The World.
1865.....	4,897,971	843.410	882.526	9,099,666
1870.....	6,060,720	1,692.378	1,391,124	12,259,910
1879.....	6,093,060	2,786.650	2,226,587	14,397,282
1886.....	7,124,012	5,776.168	3,528,658	20,785,531
1892.....	6,000,000	9,269,382	5,400,000	26,460,710

The production for 1893 was for Great Britain 6,829,841, and for the United States 7,043,348 tons.

Mr. Atkinson, quoting from the census of 1890, states that the value of farms, farm implements and machinery and live stock in this country was then $16,000,000,000, and goes on to say: "On the basis of this discrimination I have computed the possible farm mortgage on farms, worked by owners or lessees, at 10 per cent. or less; certainly not more. * * * Are the farmers going to run the risk of the fluctuations of a silver standard? Not much! Where can you point out to me any class in the business community so thoroughly independent, so free from encumbrance, or so able to grant a credit to the whole community, as this great body of the freehold farmers of the broad Mississippi Valley?"

Mr. Atkinson also shows that between 1873 and 1892 the various percentages of increase were: "Population, 57 per cent.; postal receipts, 218 per cent.; appropriations for schools, 103 per cent.; increase in grain crop, 96 per cent.; debt diminished *per capita*, 75 per cent.; increase of cotton, 132 per cent."

APPENDIX G.

Mr. George F. Becker, on page 50 of "Atkinson's Report on Bimetallism," 1887, quotes some figures from Professor Soetbeer's tables, and says:—

"It then appears that for these periods, beginning with 1851–60, the proportions of the gold product added to the available stock of coin have been, in round numbers, 81, 54, 45, and 23 per cent. Now, if there has really been a scarcity of gold of late, why was only 23 per cent. of the gold product added to the available coin of the world during the period 1881–85? The contrast offered by these figures can also be brought

out in another way. In the period 1881–85 the gold product was 37 per cent. of the product in the ten years 1851–60; but the gold coin added to the available stock in the five years 1881–85 was only 11 per cent. of that similarly added in 1851–60. Thus the additions to the available coin have diminished more than three times as rapidly as has the product."

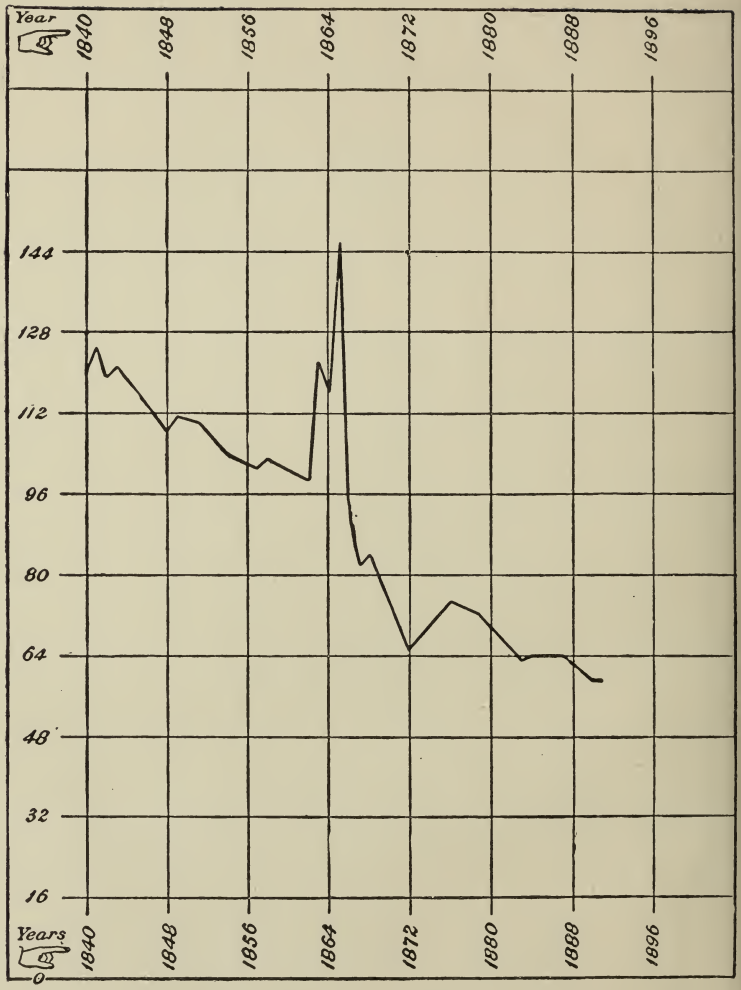
APPENDIX H.

Amount of money in circulation per capita in the United States (Reports of the Secretary of the Treasury).

July 1, 1860	$13.85	July 1, 1878	$15.32
" 1861	13.98	" 1879	16.75
" 1862	10.23	" 1880	19.41
" 1863	17.84	" 1881	21.71
" 1864	19.67	" 1882	22.37
" 1865	20.57	" 1883	22.91
" 1866	18.99	" 1884	22.65
" 1867	18.28	" 1885	23.02
" 1868	18.39	" 1886	21.82
" 1869	17.60	" 1887	22.45
" 1870	17.50	" 1888	22.88
" 1871	18.10	" 1889	22.52
" 1872	18.19	" 1890	22.82
" 1873	18.04	" 1891	23.41
" 1874	18.13	" 1892	24.44
" 1875	17.16	" 1893	23.85
" 1876	16.12		
" 1877	15.58	April 1, 1894	24.85

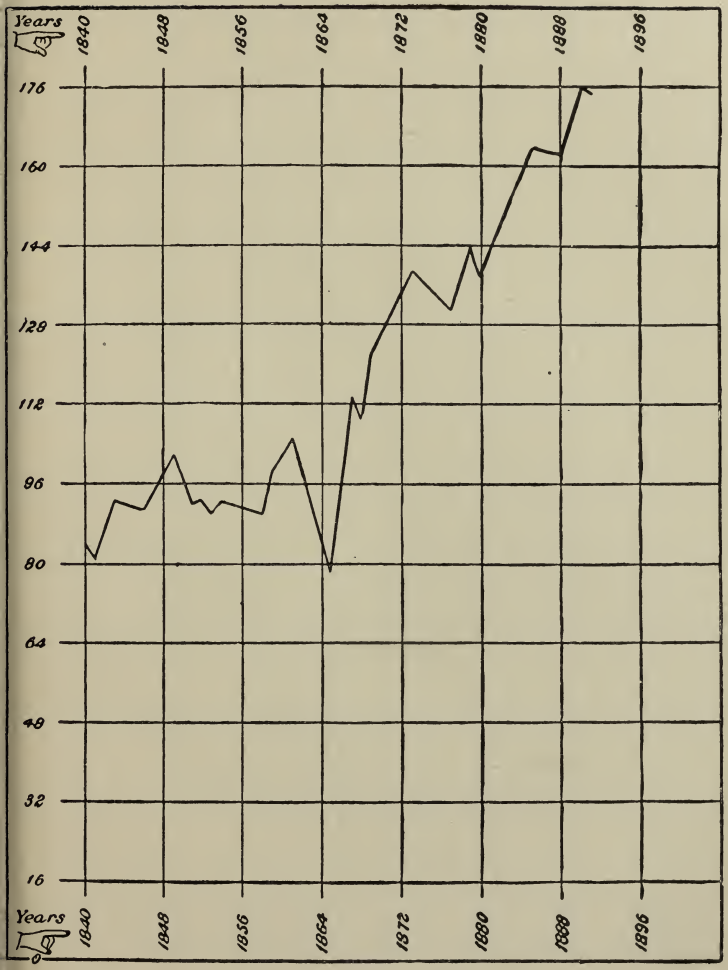
The bimetallists' theory that the prices of merchandise are much affected by the amount of money in circulation seems to be refuted by this table. Between 1860 and 1880 the circulation *per capita* never got above $20, and was at one time down to $10; while to-day it is about $25, with prices of merchandise much *lower* than at any time between 1860 and 1880.

APPENDIX J.



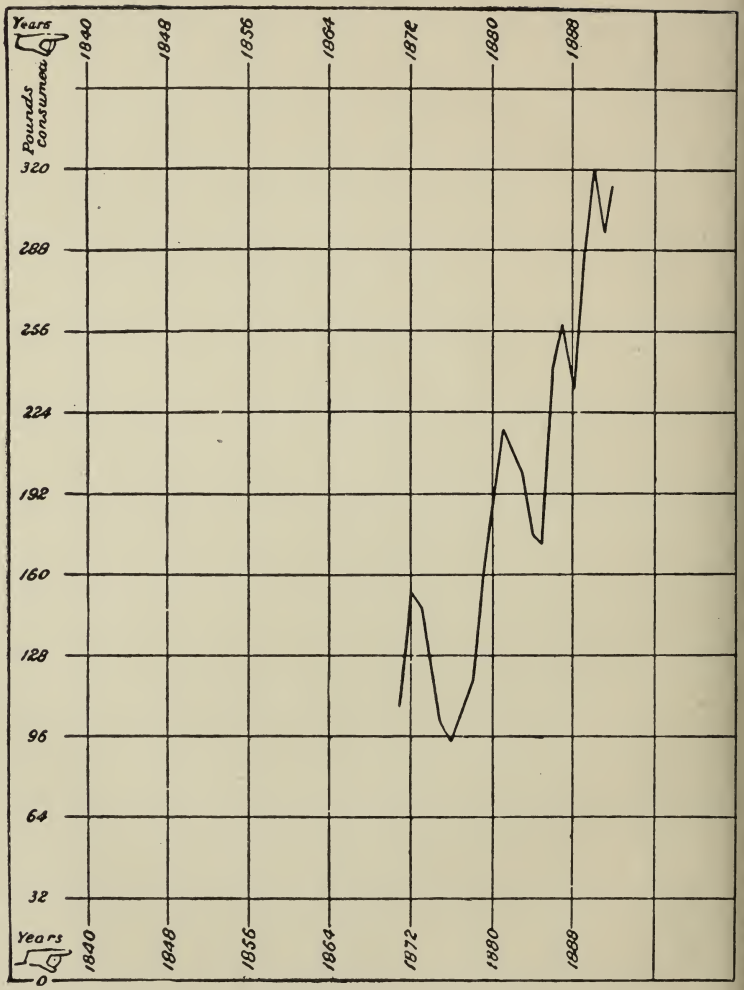
COST OF GOLD.

See Table No. 1, pages 12 & 13



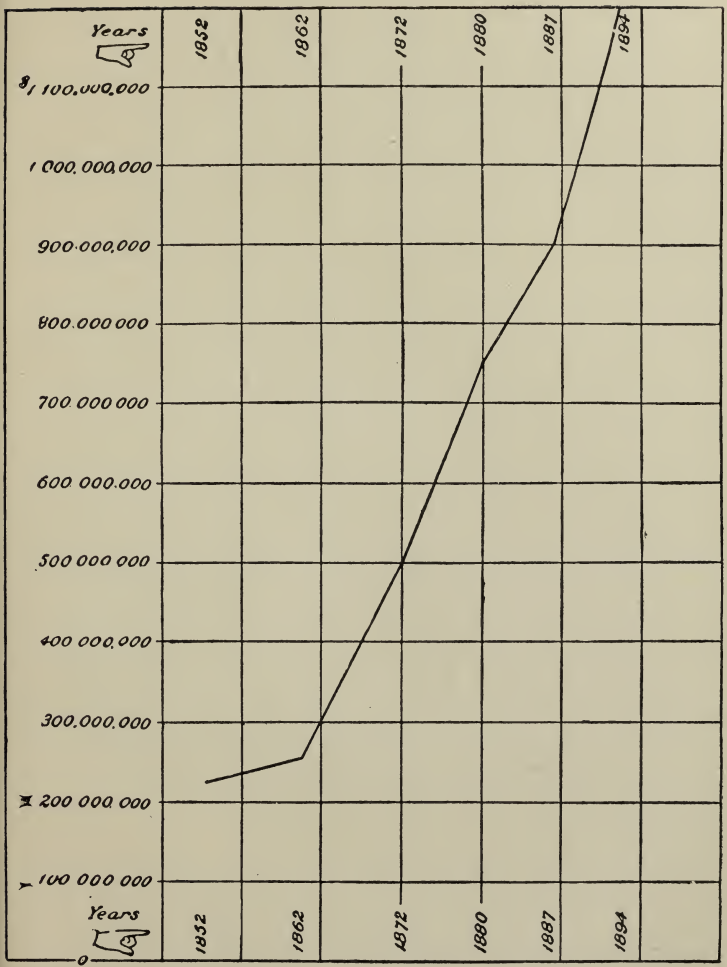
RATIOS OF WAGES TO COST OF LIVING.

See Table No. 2, pages 12 & 13



POUNDS OF PIG IRON CONSUMED PER CAPITA.

See Table No. 4, pages 12 & 13



HOLDINGS AT SIX DATES OF GOLD AND SILVER BY THE GREAT BANKS OF EUROPE.

See Table No 5. pages 12 & 13

Professor Soetbeer's table, and the tables from which the first and second tables given here were deduced were not made in order to show the absolute wages or prices of any one year, but to show the relation that the wages or the prices of any one year bore to those of other years. For instance, the second table does not mean that in 1840 an average citizen earned but 83 per cent. of what it cost him to live; but it means that the ratio between wages and cost of living in 1840 bore the same proportion to the ratio between wages and cost of living in 1891 as 837 bears to 1752.

APPENDIX K.

If the public is allowed to convert in the mints a given amount of silver bullion into more money than can be got for it by sale in the market, evidently the value of standard money will be reduced by the addition of this new money. In this case prices will rise. If the permission to the public is only to convert in the mints a given amount of silver bullion into less money than can be got for it in the market, of course no silver bullion will be so converted. Some people have a notion, not thoroughly thought out, that in some way by opening the mints an addition could be made to the amount of standard money which would result in a rise in prices, although the new money had as great value as the old stock. Probably this error arises from not distinguishing between the effect of simply opening the mints to coinage, and the effect of the forcible injection of legal-tender money into circulation by government, as was done by our government both with legal-tender notes and silver dollars. It is obvious, however, that when government merely throws open the mints, the opportunity given to the owner of bullion to make a profit is the only thing that induces an increase in the amount of money; and this profit cannot be made if the bullion has already as much value as it would have in the form of coin.

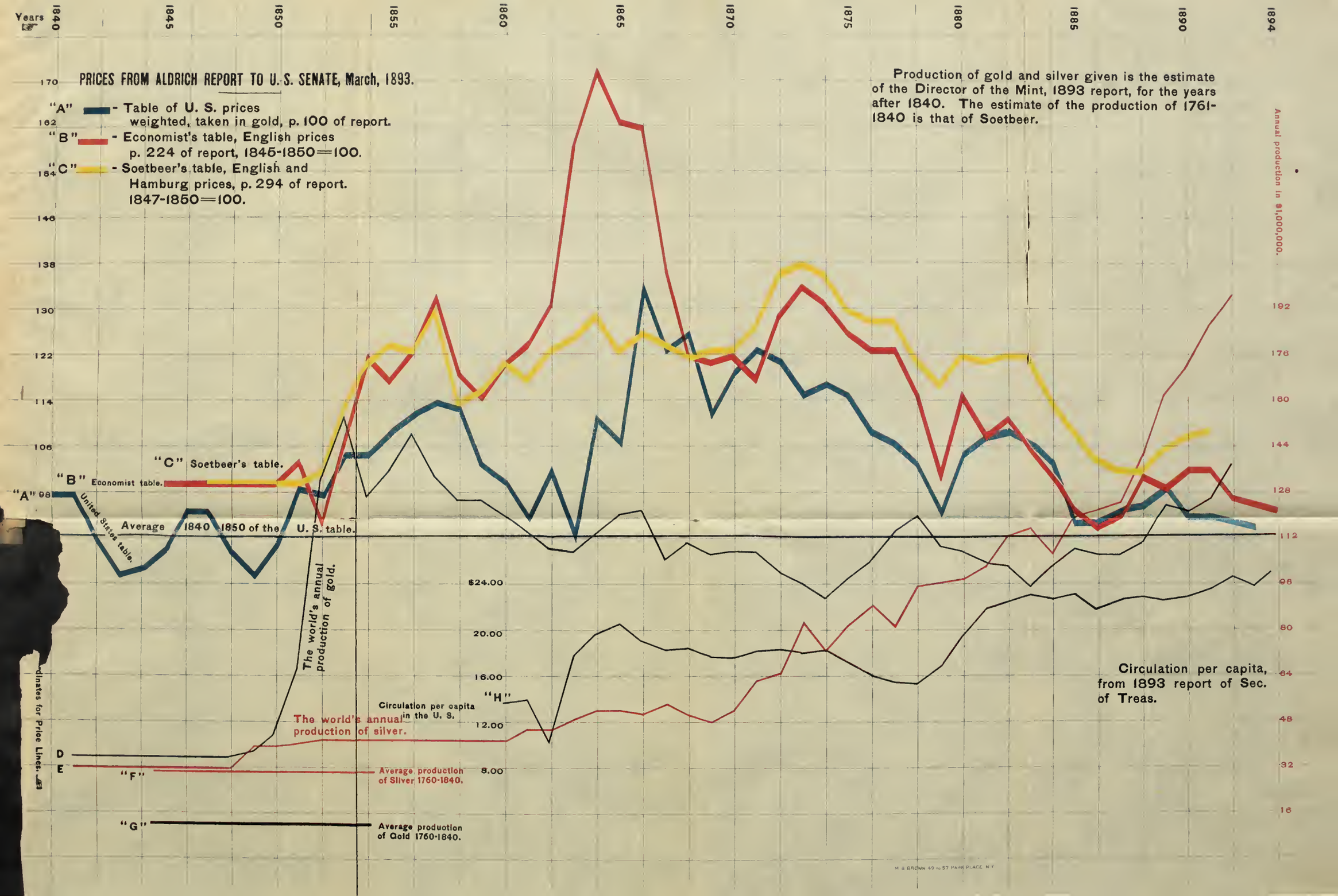
Probably, also, many people think that gold has always a "scarcity" value, as wheat in Chicago has when it is cornered; but this is a mistake. There are always many gold mines that would be worked if only the market value of gold were a trifle greater, or if the cost of production could be reduced by lower wages or better transportation; and a great many gold mines, that are constantly returning so small a profit that they would be closed if the market value of gold fell, or the cost of production rose, even a very little; that is to say, the size of the product of gold is very closely responsive to changes in its market value and in its cost of production.

APPENDIX L.

Mr. Balfour, in his speech at the Mansion House in August, 1893, said :

" I have heard it stated by those who object to the views which I shall venture to defend before you to-day, that all persons who advocate a double standard are desirous of inflating the currency, and thereby of artificially raising prices. Now, I am not concerned to deny that possibly in the Western States of America there may be a body of opinion of some importance on which this criticism might be truly passed. I speak with no authority on this point, and I may be quite wrong ; but from such literature as I have been able to peruse, I think it possible that the inconvertible currency which at one time existed in America has left behind it in the West certain traditions and sympathies in favor of what, I believe, they call 'soft money,' which are open to the objection that those who hold them really desire not to keep the standard of value stable, but to lower it in favor of the debtor as against the creditor. But whether this be or be not true of America, I most emphatically assert that it is not true of any body of opinion in this country. Nobody I know of, no responsible person whom I have ever met or ever heard of, desires artificially to inflate the currency with the view of stimulating trade, of relieving debtors, or of robbing creditors."

It may be said that Mr. Balfour was not referring in this statement to such action as is contemplated by the Boston bimetallists. But the bimetallists, who propose to bring about a rise in prices must expect to do it by reducing the value of standard money. They say that the decline in prices has come from an increase in the value of standard money, and they wish to do something to standard money which shall make prices rise ; that is, they wish to reduce the value of standard money. It is a great comfort to see that a leader like Mr. Balfour does not approve of this, although he seems to stand high in the approval of the bimetallists. There is no indication in this speech that he knew that prices had fallen at all. He thinks a scramble for gold is imminent, but does not suggest that it has taken place. He thinks the " commercial magnates may be led to dreading in the future that slow appreciation of the standard of value," but he does not hint at any appreciation in the past.


Years
1840
1845
1850
1855
1860
1865
1870
1875
1880
1885
1890
1894
PRICES FROM ALDRICH REPORT TO U. S. SENATE, March, 1893.
"A" - Table of U. S. prices weighted, taken in gold, p. 100 of report.
"B" - Economist's table, English prices p. 224 of report, 1845-1850=100.
"C" - Soetbeer's table, English and Hamburg prices, p. 294 of report. 1847-1850=100.
Production of gold and silver given is the estimate of the Director of the Mint, 1893 report, for the years after 1840. The estimate of the production of 1761-1840 is that of Soetbeer.
Annual production in $1,000,000.
170
162
154
146
138
130
122
114
106
98
192
176
160
144
128
112
96
80
64
48
32
16
"C" Soetbeer's table.
"B" Economist table.
"A"
United States table.
Average 1840 1850 of the U. S. table.
The world's annual production of gold.
$24.00
20.00
16.00
12.00
8.00
"H"
Circulation per capita in the U. S.
The world's annual production of silver.
D
E
"F"
Average production of Sliver 1760-1840.
"G"
Average production of Gold 1760-1840.
Circulation per capita, from 1893 report of Sec. of Treas.
dinates for Price Lines.
M. B. BROWN 49 to 57 PARK PLACE, N.Y.